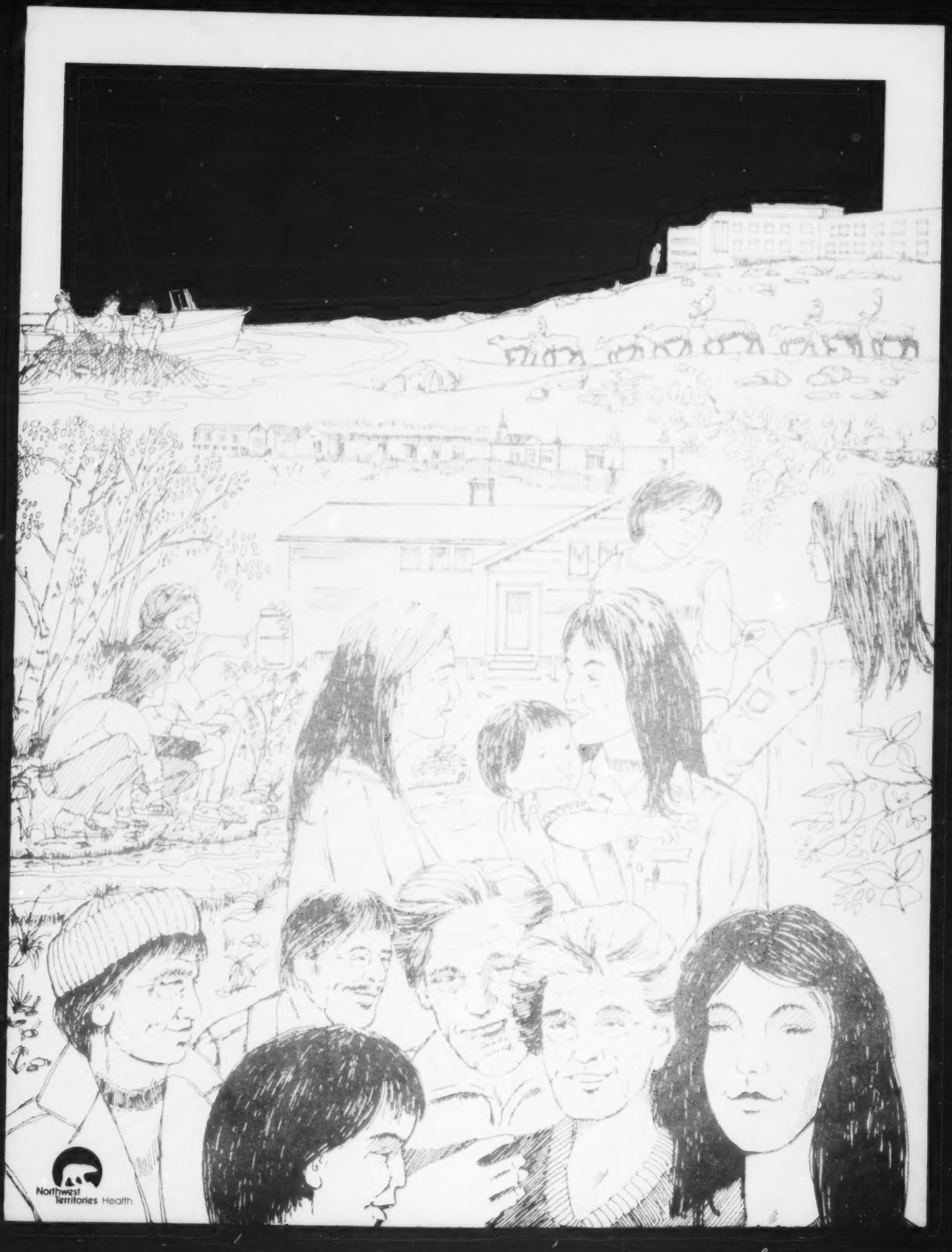

Northwest Territories Health

92-03636/

HEALTH AND HEALTH SERVICES IN THE NORTHWEST TERRITORIES

• SUMMARY •

This report examines the current health status of Northwest Territories residents and also examines how the Department of Health, the Regional Hospitals and Health Boards and the Government of the Northwest Territories (GNWT) have identified and dealt with important health problems.

The purpose of the report is to provide a foundation from which "healthy public policy" (public policy which promotes health) can be promoted, developed and assessed. It will also guide the planning, management and delivery of a balanced mixture of community and institutional health services which emphasize community involvement.

The health system is discussed in a way which may help to:

- describe the degree of political commitment to health,
- show the effect of socio-economic factors on health,
- find better methods of providing health care, and
- learn about the health of NWT residents.

The NWT Department of Health accepts the World Health Organization's definition of health:

> *Health is the extent to which an individual or group is able, on the one hand to realize aspirations and satisfy needs; and on the other hand, to change or cope with the environment. Health is therefore seen as a resource for daily living, not the objective of living; it is a positive concept, emphasizing social and personal resources, as well as physical capacities. (WHO 1984)*

Ill-health is a term used for any condition which does not fit the definition of health. It is determined by many factors. Some of these, like certain conditions which are caused by genetic or environmental causes which act before birth, cannot be controlled. However, a great deal can be done about many of the conditions contributing to illness and disease, and to unnecessary or early deaths. These conditions - unemployment, poor hous-

ing, inadequate sanitation, poor nutrition, and alcohol and drug abuse - can be improved through the adoption of public policies which promote the broad definition of health. The Department of Health has a responsibility to identify needed policies and to encourage all departments of the GNWT to develop and implement them wherever possible.

HEALTH POLICY

The GNWT is politically committed to assisting residents to achieve their best possible health. Over 18 per cent of the GNWT total budget is given for health activities. The fair sharing of this amount is made difficult by the need to provide services to a small population scattered over a large area. Giving responsibility for managing services to regional boards, however, allows for considerable community involvement, and room to expand that involvement.

SOCIAL AND ECONOMIC CONDITIONS

Most of the major advances in world health have been achieved through better housing, better nutrition and sanitation, widespread immunization and improved care for children, infants and pregnant women. Much still remains to be done.

Employment, income and educational levels are directly related to ethnic origin, age and sex. Unemployment rates for Natives are at least twice that of non-Natives. Limited reading and writing skills and difficulty with counting are more common among Native people over 15, and contribute to unemployment, low income and poor health.

Poor housing and overcrowding are causes of sickness. Many new houses have been built, but cannot keep up with the expanding population, so overcrowding is still a problem.

Many Native people are having difficulty maintaining their health because their generally healthy diet of traditional foods is being replaced by store-bought foods. Breast feeding is the traditional way, and still the best way to feed infants.

Healthy store foods cost too much for many people. To provide healthy store foods for those who need them, it may be necessary to lower the cost. It would also be good to help keep out some "foods" which are not healthy, such as sugared drinks, which are a cause of tooth damage and loss (a big problem for babies).

Family breakdown, spousal and child abuse, and overcrowding of halfway houses and shelters are common. Alcohol use causes problems for everyone, not just those who abuse it. Health service deals with injuries from accidents and violence which so often

follow alcohol abuse. Too many problems, injuries, and deaths are caused by alcohol. Many of the services needed to help the people with these problems have not been set up or are not available in all communities. Everyone really must help – relatives, community services, Regional Boards and central departments.

Fifty-two percent of NWT residents smoke. This is much higher than in the rest of Canada. Lung cancer is increasing as a result – at a faster rate for women than for men.

Recent surveys have shown contamination of the environment and food chain in the north. Action is needed at the national and international levels to control the entry of chemicals into the environment and food chain. The department, and outside experts, still encourage the use of traditional foods, because these foods are much better, and more available, than many store foods.

Since 1960 there has been much improvement in water supplies and in the safe disposal of sewage and garbage. But in many communities there is much more to do. Poor sanitation is still a cause of disease in the NWT, and it shouldn't be.

HEALTH CARE INDICATORS

The GNWT operates the Hospital Insurance and Medical Care Plans according to the Territorial Hospital Insurance Services (THIS) and Medical Care laws. The Hospital Insurance Plan is run by the Department of Health, directed by the THIS Board. The Medical Care Plan (Medicare) is run directly by the Department of Health.

The Territorial Hospital Insurance Services (THIS) Board was formed in 1959 and reports to the Legislative Assembly through the Minister of Health.

Responsibility for health facilities and services was transferred from Health and Welfare Canada (HWC) to the GNWT in 1988. Financial resources to administer the health care system accompanied the transfer. HWC kept responsibility for special services to status Indians and Inuit peoples (dental care, vision care, drugs, and appliances) and contracts with the GNWT to look after these services.

Over the six year period 1984/85 to 1989/90, THIS costs have increased, especially for the six NWT hospitals and in payments to physicians for insured services. New forms of treatment are being used, and new equipment is needed; both are very expensive.

Health services are provided in health centres, at clinics, in homes, in hospitals and other in-patient facilities. The health system tries to give responsibility for delivery of services – for prevention, treatment, rehabilitation, or care – to

people in the community, or as close to the community as possible.

In most communities in the NWT, care is provided by nurses and other professionals in the health centre. Physicians, based in larger communities, make regularly scheduled trips to the communities to see people who need more care than can be provided by the health centre nurse.

Care can frequently be provided better at home than elsewhere; most people want to stay at home as long as possible. The need for care can be assessed, and help provided through homecare and other services. Rehabilitation services also help persons function at their best possible level.

Most NWT hospitals have low occupancy rates. More than 30% of hospital inpatient days (not including days for newborn babies), and about 20% of outpatient visits occur outside the NWT.

Large numbers of people are sent from their home community for treatment, either to a regional centre or outside the NWT. The cost of this travel is very high – more than the total paid to all doctors (both in the NWT and outside). As more services are set up in the NWT, especially at the new Stanton Yellowknife Hospital, there will be less need to send people further south for care.

The health system in the NWT will probably have to recruit nurses from the south for many years to come, because not enough NWT high school graduates are eligible for, or are not choosing nursing or other health jobs.

The picture for support level staff is more promising. Community Health Representatives (CHRs) are being trained in the NWT – the goal being to employ a CHR in every community health centre. Continuing education/ training is being developed for Clerk/Interpreters. There is also the possibility of training new types of health care workers, such as Community Health Aides (an Alaska program).

HEALTH INDICATORS

"Unacceptable causes of death and disease" have been chosen as indicators of the health of NWT residents. The causes are termed "unacceptable" because they lead to deaths and diseases which are preventable.

Deaths among Dene and Inuit infants is still more than twice the Canadian rate, and the gap between Native and non-Native death rates in early life is increasing.

During the period 1984 – 1989 over 30 per cent of all deaths were the result of injury and violence. A special concern is suicide. The NWT suicide rate was more than twice the Canadian rate

during the 1980s. In the 15-24 age group, the NWT rates were more than five times the Canadian rate. Death from heart disease, the commonest cause of death in Canada, is still uncommon among the Native population, partly because of the use of traditional foods.

Information on disease comes from three main sources:

- conditions reportable by law;
- health care use (physician visits, health centre visits, or hospital admissions); and,
- from special surveys.

In the NWT, conditions reportable by law include cancer, and diseases which can be passed from one person to another. On average, 50 to 60 new cases of cancer occur each year in the NWT. The rates for total cancers are a little higher than those for Canada; the rates for lung cancer, in both men and women, and cervical cancer in women are much higher.

Sexually transmitted diseases remain the most common of the reportable diseases. The amount of gonorrhea raises concern about AIDS, which is also sexually transmitted. To September 31, 1990, ten NWT residents had been reported to be HIV infected. Because AIDS is a relatively "new" disease, and can take up to 10 years after infection to develop, it is very likely that more cases will be found in the NWT over the next ten years.

Tuberculosis remains a problem in the NWT and will continue to be a problem as long as inadequate housing and overcrowding are common.

A number of other communicable diseases are preventable to varying extent by immunization. Although most of these,(e.g. diphtheria, tetanus, polio, measles), are now uncommon in the territories, it is important that all children continue to be immunized against these diseases.

Meningitis caused by Haemophilus influenzae type B (Hib) occurs at higher rates in the NWT than in any other part of Canada. Efforts are under way to develop a vaccine which is effective for young infants. Most cases in the NWT occur among Inuit infants.

Dental disease in NWT children is a major health concern. The poor condition of the teeth of children, especially Native children, is shown by the number of diseased, missing or filled teeth for each age group. Recent surveys of children indicate that dental caries and missing teeth rates are the highest in Canada.

CONCLUSION

The Health Department has a special responsibility to measure the health of the population, identify problems and develop ways and means to promote health, prevent disease, treat illness, restore function or provide care. This will require planning - centrally, regionally, and in each community. The public will participate through Health Boards at the territorial and regional levels and through health committees in each community.

This report suggests that the Department of Health and the GNWT must find better ways to identify problems and to control major health problems.

The Department cannot do much by itself, but with the support of health and hospital boards, and the involvement of other government departments, many serious problems can be corrected or prevented. Healthy public policies will need to be developed for housing, work conditions, nutrition, sanitation, contaminants in the traditional food chain, alcohol use and abuse, tobacco use, protection from disease, and on the effective use of treatment services.

This is the first of a series of reports on how well we are doing.

~ Yellowknife, NWT,
February 7, 1991

HEALTH
AND
HEALTH SERVICES
IN THE NORTHWEST TERRITORIES

A Report from the

Territorial Hospital Insurance Services Board

and

The Department of Health

October 1990

Upon this gifted age, in its dark hour,
Rains from the sky a meteoric shower
Of facts...they lie unquestioned, uncombined.
Wisdom enough to leech us of our ill
Is daily spun, but there exists no loom
to weave it into fabric;...

Edna St. Vincent Millay
Huntsman, What Quarry?

Northwest Territories Minister of Health

Mr. Daniel L. Norris,
Commissioner,
Government of the Northwest Territories,
Courthouse 6,
Yellowknife, N.W.T.
X1A 2L9

Dear Commissioner Norris:

I have the honour to submit the accompanying report on Health and Health Services in the Northwest Territories, in fulfilment of requirements of the Territorial Hospital Insurance Service Act and the Medical Care Act.

This report provides information accumulated over the period April 1, 1984 to March 31, 1990, and represents a consolidation and updating of material previously published as the annual report on Territorial Hospital Insurance Services and Medicare, and the "Report on Health Conditions in the Northwest Territories", from Health and Welfare Canada.

The overall purpose of the report is to provide a basis on which "healthy public policy" can be developed and promoted, as well as the anticipated effects of such policy measures.

Respectfully submitted,

Nellie J. Cournoyea,
Minister.

Northwest Territories Health

The Honourable Nellie J. Cournoyea
Minister
Department of Health
Government of the Northwest Territories
Laing Building, 6th Floor
Yellowknife, N.W.T.
X1A 2L9

Dear Madame Minister:

I have the honour to submit the accompanying report on Health and Health Services in the Northwest Territories.

This report represents a consolidation and updating, to March 31, 1990, of material previously published as the annual report on Territorial Hospital Insurance Services and Medicare, and the "Report on Health Conditions in the Northwest Territories", from Health and Welfare Canada.

The format and content of this report do not conform to those of its predecessors. Health is defined broadly, and the effect upon health of public and individual activity is highlighted. The intention is to increase awareness of health issues facing northerners, and to provoke reflection and discussion on what is being done: why, how, by whom, with what effect, and at what cost. Descriptive text is supplemented by explanatory tables and graphs, and by comment, including suggestions on what appear to be important areas for future.

Respectfully submitted,

Bob Cowcill

Bob Cowcill
Chairman, T.H.I.S. Board
and
Deputy Minister
(Department of Health)

TERRITORIAL HOSPITAL INSURANCE SERVICES

April 1, 1984 - September 30, 1990

Board Composition

Name	*Status*	*From*	*To*	*Home*
David Emery	Member	Jun 1977	Present	Yellowknife, Ottawa
Bertha Allen	Member	Nov 1978	Present	Inuvik, Edmonton
Leon Peterson	Member	Nov 1978	Present	Fort Smith
Robert McDermit*	Chairman	Mar 1977	Sep 1979	Yellowknife
Janet Lindquist	Chairman	Sep 1979	Dec 1979	Yellowknife
Michael Pontus	Chairman	Dec 1979	Oct 1989	Yellowknife
Meeka Kilabuk	Member	Nov 1983	Aug 1988	Pangnirtung
Edna Elias	Member	Jul 1984	Nov 1987	Coppermine
David McCann	Member	Aug 1989	Present	Yellowknife
Bob Cowcill	Chairman	Oct 1989	Present	Yellowknife

Secretariat

Edward Timoffee	Secretary	Apr 1984	Mar 1988
Nelson McClelland	Secretary	Mar 1988	Jun 1990
Dr. David Kinloch	Secretary	Jul 1990	Present

**Deceased February 1990*

TABLE OF CONTENTS

INTRODUCTION 1

HEALTH AND DISEASE 5
Promoting and Maintaining Health 5
Protecting from Harm 6
Preventing Disease and Early Death 7
Treating Illness and Limiting Disability 7
Providing Care 8

KEY HEALTH INDICATORS 9

HEALTH POLICY INDICATORS 11
Political Commitment 11
Resource Allocation 11
Community Involvement 12
Organization 12

SOCIO-ECONOMIC INDICATORS 13
Socio-Economic Conditions 16
Income 16
Unemployment 17
Education 17
Housing 18
Nutrition 18
Family and Community Life 20
Alcohol Use and Abuse 21
Tobacco Use and Abuse 22
Environmental Health 23
Contamination of Traditional Foods 23
Community Sanitation 24

HEALTH CARE INDICATORS 27
Health System Organization and Resources 27
The Organization and Administration of Health Care Delivery 27
Arrangements for the Provision of Services 32
Treatment Capabilities, Care Services 33
Standards, and Acceptable Care 34
Treatment in the NWT, or Outside 34
Ineffective Use of Treatment Services 38
Human Resources 39
Staffing of the Health Service 39
Staffing Support for Facilities 41
Educating Health Professionals 41

HEALTH STATUS INDICATORS 43
Death 43
Disease 48
Disabilities 52
Dissatisfaction 52

CONCLUSION 53
Future Directions 53
Function of the Department of Health 53
Public Participation 54
Public Responsiveness 54
Proposed Strategy 54

APPENDIX
Glossary i

ILLUSTRATIONS
NWT Infant Mortality by Ethnicity
Figure 1 2

NWT Tuberculosis
Figure 2 3
Population by Five Year Age Groups
Figure 3 13
Reported Vital Statistics NWT 1988
Table 1 14
Reported Vital Statistics NWT 1989
Table 2 15
Social Assistance Support For NWT Residents
Table 3 17
NWT Breast Feeding Practice
Figure 4 19
NWT Mortality: Injury and Violence
Figure 5 22
Community Water and Sanitation Services
Table 4 25
THIS and Medicare Financial Information
Table 5 30
NWT Health Facilities
Table 6 31
Utilization of NWT Hospitals
Table 7 35
Patient Days, NWT Hospitals 1984 - 1989
Figure 6 36
Outpatient Visits, NWT Hospitals 1984 - 1989
Figure 7 36
Utilization of Acute Care Beds
Figure 8 37
Hospital Services
Table 8 37
Medicare, Medical Travel Costs
Figure 9 38
NWT High School Graduates
Table 9 42

NWT Perinatal Mortality by Ethnicity
Figure 10 43
Mortality, All Causes: Canada; NWT
Figure 11 44
Leading Causes of Death in the NWT
Table 10 45
Reported Suicides
Figure 12 45
Person Years of Life Lost
Table 11 46
Potential Years of Life Lost (PYLL)
Figure 13 47
Unnecessary or Premature Deaths
Figure 14 47
Reported Gonorrhoea by Age and Sex
Figure 15 49
Dental Health of 13 Year Olds
Figure 16 51

HEALTH AND HEALTH SERVICES IN THE NORTHWEST TERRITORIES

A Descriptive and Analytic Review

INTRODUCTION

This report examines the current health status of residents of the Northwest Territories (NWT). It also examines the success with which important health problems have been identified and dealt with by the Department of Health, the Regional Hospital and Health Boards and the Government of the Northwest Territories (GNWT).

The purpose of the report is to provide a basis on which "healthy public policy" (public policy which promotes health) can be developed, and the effects of such policy measured. The report is also intended as a guide for future development of a balanced mix of community and institutional health services and related activities.

This report will:

- Define health, and health status;
- Discuss the indicators used to describe health status;
- Examine the NWT health system and its contribution to health status; and,
- Introduce some options for the future.

For some diseases or problems, it is obvious whether things are getting better or worse. For example, in the past, polio caused much fear and suffering, but in Canada it has nearly disappeared because of the use of polio vaccines. However, it generally is necessary to use numbers or "data" to measure and compare indicators of health and illness in a population.

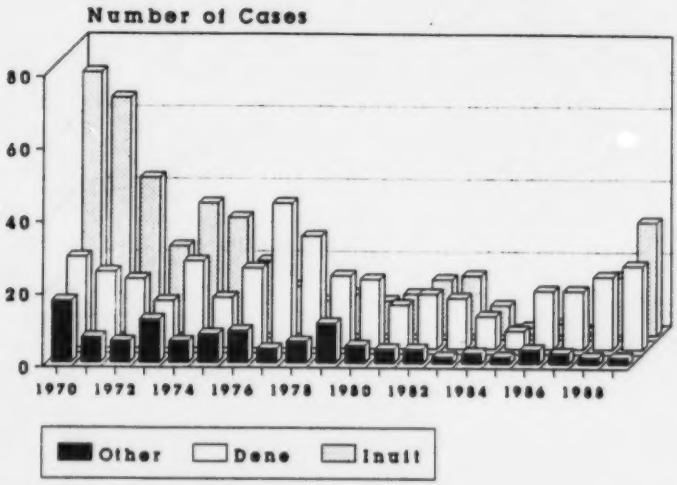
Data only become useful when they have been analyzed, which may include comparison with data from other places or other times. Comparisons are made using "rates", which usually are stated as the number per 1000 population. Analyzing NWT data requires special care because of the small population, and the large effect a single case has upon the rate. Comparisons between various time periods must take into account differences in the methods of data collection, and variations in the age and sex distribution of the population, because disease experience may differ greatly between age and sex groups.

Comparing NWT death and disease patterns from earlier years with the present, it appears that the health of NWT residents has improved in recent years. Some indicators, such as infant death rates, now compare favourably with southern parts of Canada (**Figure 1**).

FIGURE 1: **NWT INFANT MORTALITY BY ETHNICITY**
Deaths Per 1000 Live Births: 1970 - 1989
Source: GNWT Health

There also appears to be greater control of some diseases such as tuberculosis (**Figure 2**). In spite of these successes much unnecessary disease and unnecessary or premature death still occurs in the NWT, particularly among the Native population.

FIGURE 2: **NWT TUBERCULOSIS**
New and Reactivated Cases: 1970 - 1989
Source: MSB; GNWT Health



HEALTH AND DISEASE

The NWT Department of Health accepts the World Health Organization's 1984 definition of health:

"Health is the extent to which an individual or group is able, on the one hand to realize aspirations and satisfy needs; and on the other hand, to change or cope with the environment. Health is therefore seen as a resource for daily living, not the objective of living; it is a positive concept, emphasizing social and personal resources, as well as physical capacities."

There is a difference between ill-health and disease. Ill-health is a general term describing deviations from health; disease is much more specific, and usually refers only to physical ill-health.

Ill-health is determined by many factors, some of which are not subject to control, such as conditions originating before birth which are caused by genetic or certain environmental influences. There is, however, a great deal which can be done about illiteracy, poor housing, inadequate sanitation, poor nutrition, and alcohol and drug abuse, all of which contribute to illness, disease or disability, and to unnecessary or premature deaths.

In the past the health of populations has been improved by making efforts to correct what were seen as unacceptable conditions: inadequate housing, contaminated drinking water, dangerous working conditions, lack of care for pregnant women and infants, and unimmunized children. The present challenge is to encourage all departments of the GNWT to focus on developing public policies which promote the broad definition of health.

Promoting and Maintaining Health

Good health and long life are far more dependent on individual behaviour than on medical services. Eating habits,

avoidance of specific hazards such as tobacco use or excessive alcohol consumption, and use of protective headgear or seat belts, play a major role in promoting and preserving health. This is not entirely a matter of personal choice. Society can provide a climate for making wise personal choices by providing incentives and penalties which encourage healthy lifestyles. The health system can provide information and guidance, but ultimately it is the individual who must act.

Protecting from Harm

Society has an obligation to help individuals protect themselves, wherever possible, from infectious disease, harmful substances and practices which are likely to damage health. Throughout the ages societies have provided such protection through cultural traditions and religious practices. In the more complicated social environment we have created there is an additional need to control hazards either directly through legislation, or indirectly through financial incentives or penalties, or other mechanisms.

There will never be agreement over appropriate areas for regulation or the degree to which controls should be imposed. It is also almost impossible to keep legislation current. Many NWT health-related regulations are outdated, and new areas may require regulation to protect the public health.

Some development activities which have the potential to improve the prosperity of the NWT may also have the potential to cause harm, although, on the surface, the activities may seem to have no apparent relationship to health. It is an important function of the Department to ensure that development and other aims are not achieved at the expense of the health of the population.

There are many activities which may be damaging to health that lie outside the responsibilities of the Department. The Department has no direct control over the release of contaminants into the environment, nor over the failure to use seat belts, nor over the misuse of alcohol. The Department *does* have the responsibility to inform and influence other

departments in relation to conditions which may have adverse health effects.

Preventing Disease and Early Death

Traditionally, prevention has been divided into three sectors:

Primary prevention aims to prevent a disease or health problem from occurring. An example is immunization against disease.

Secondary prevention aims to detect disease in an early state in order to start treatment and prevent the disease from progressing further. An example is Pap smear screening for cervical cancer detection.

Tertiary prevention aims to provide effective treatment for disease so that complications or long term disabilities are avoided. An example is management of diabetes.

Preventive programs are judged by their success in avoiding premature death, reducing the number of ill people in the community, and minimizing disability that interferes with usual functioning.

Treating Illness and Limiting Disability

Treatment services have contributed significantly to the health of *individuals*, but less to improving the health of *populations*. In most countries, however, the treatment component of expenditures relating to "Health" is large and expanding. This occurs because treatment services provide immediate and sometimes dramatic benefits. Also, there is a general inclination to support the highly visible capital projects and technologies which are associated with treatment services. Longer-lasting benefits which result from general improvements in social conditions, including the specific effects of health promotion and disease prevention activities, are frequently subtle and usually occur long after changes are introduced.

Providing Care

The Department believes that residents benefit from care being provided as close to home as possible. It encourages and supports residents to remain at home in their home community as long as possible. Institutional care should be considered only when appropriate treatment is not possible elsewhere.

Care services consist of a linked system of support which includes home care, out-patient services provided in health centres and physicians' offices, or hospitals, and long-term care institutional care. These services are operated with the aim of ensuring continuity of care for those moving within the system. Persons in all parts of the NWT have access to the care services offered by the health system.

KEY HEALTH INDICATORS

The World Health Organization (WHO) has developed key indicators which can be used as a starting point for the evaluation of a health system. For the purposes of this report the indicators have been adapted to fit NWT circumstances.

Indicators have been developed which help to assess

- The degree to which health policy has been developed;
- The socio-economic factors which affect health;
- The method of providing health care; and,
- The health status of NWT residents.

HEALTH POLICY INDICATORS

Political Commitment

The GNWT is politically committed to assist residents of the Northwest Territories to attain, maintain or regain their highest achievable health status. This goal is pursued through the provision of a broad base of health promotion, health protection, disease prevention activities, treatment services, and care, and the promotion of healthy public policy. Commitment to this effort has been demonstrated through serious efforts to improve housing and public services at the community level, by the introduction of liquor plebiscite legislation, pricing policies for alcohol and tobacco, and the introduction of a smoke-free environment in GNWT worksites.

Resource Allocation

The political commitment to health has been accompanied by a significant total resource allocation; approximately 18% of the total NWT budget is devoted to health activities. Now that the GNWT has full responsibility for health services, it must determine if the benefits received justify this substantial investment, or if the allocation of resources is appropriate. This is especially important in the current climate of economic restraint.

The fairness of distribution of health resources has not yet received sufficient scrutiny. Because of the problems associated with providing services to a small population scattered over a large area, absolute equality is neither possible nor desirable. Some services must be limited to population centres or to geographic areas where they can be maintained at an acceptable level of quality and supportable cost.

The challenge for the future is to determine the extent to which public policies can contribute to improved health

status, and to base resource allocation on those activities with the greatest potential for benefit.

Community Involvement

Community involvement is a feature of NWT society, notably in municipal government, in health services and in education. The full potential of this participation in "health" has not yet been achieved, in part because of inexperience, and because roles and responsibilities of citizen participation at the local level have not been sufficiently clear. If community participation is to be meaningful, those involved must be provided with educational and training opportunities and support until they gain the experience to assume their full responsibilities.

Organization

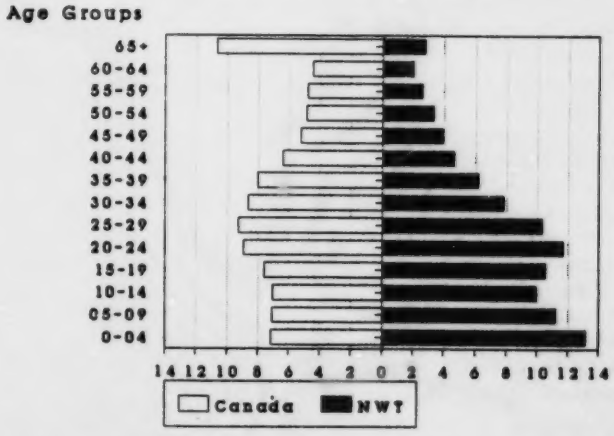
The organization of the NWT system is complex, in part because of the regional structure for the provision of health services. There are difficulties in recruitment and retention of the full range of qualified persons required for the effective operation of the health system. This is a problem throughout the system but may be a particular problem for small boards. The disadvantages of the regional structure, however, are outweighed by its potential benefits, which include improvements in the responsiveness of the system, and increased public participation in its development and operation.

SOCIO-ECONOMIC INDICATORS

The characteristics of the NWT population differ dramatically from Canada as a whole. The pattern of health problems is affected by these differences and this, in turn, affects the provision of health services. Any assessment of the current health status of the NWT must take into account the unique composition and distribution of its population:

- The NWT is the only territory or province in Canada where Native people make up the majority of the population;
- 40% of NWT residents live in communities of fewer than one thousand inhabitants, and 42 of 68 communities have fewer than 500 residents;
- In many communities, hunting and trapping are dominant features of community life and cultural expression;
- The age distribution (**Figure 3**), birth and fertility rates, and death rates by age are quite different from general Canadian statistics.

FIGURE 3: POPULATION BY FIVE YEAR AGE GROUPS
% of Total Population - Canada/NWT: 1986
Source: GNWT Bureau of Statistics 1990



Tables 1 and 2 summarize reported vital statistics for 1988 and for 1989.

TABLE 1: REPORTED VITAL STATISTICS
Northwest Territories 1988
Number/Rates as noted

	NOTE	DENE N.	DENE RATE	INUIT N.	INUIT RATE	OTHER N.	OTHER RATE	ALL N.	ALL RATE
POPULATION	a	7,897		19,196		28,211		52,304	
BIRTHS									
Total	b	260		747		469		1476	
Live		259	32.8	737	38.4	466	18.5	1462	28.0
~ In Hospital	c	246	94.6	695	93.0	469	100.0	1410	95.5
~ In Health Centre	c	11	4.2	46	6.2	0	0.0	57	3.9
~ Elsewhere	c	3	1.2	6	0.8	0	0.0	9	0.6
~ Low birth weight	d	13	5.0	58	7.9	18	3.9	89	6.1
DEATHS									
Total	e	56	7.1	106	5.5	62	2.5	224	4.3
~ Stillbirths	f	1	3.8	10	13.4	3	6.4	14	9.5
~ Perinatal	g	3	11.5	14	18.7	4	8.5	21	14.2
~ Neonatal	h	2	7.7	4	5.4	1	2.1	7	4.8
~ Postneonatal	i	2	7.7	4	5.4	3	6.4	9	6.2
~ Infant	j	4	15.4	8	10.9	4	8.6	16	10.9
~ Maternal		0	0.0	0	0.0	0	0.0	0	0.0
~ Other		52		98		58		208	
INCREASE	k	203	25.7	631	32.9	404	16.0	1238	23.7
Years to double	l		27.2		21.3		43.7		29.6

LEGEND: *N = Number*

NOTES:

a. Mid-year population
b. Live Births + stillbirths
c. Number, percent of total
d. Birth weight less than 2500 grams
e. Sum of infant + all other deaths; rate per 1000 population
f. Death at 20 weeks or more gestation, or more than 500 grams; rate per 1000 total births
g. Stillbirths and deaths under 7 days of age; rate per 1000 total births
h. Deaths during the first 28 days; rate per 1000 live births
i. Deaths after 28 days but before 1 year; rate per 1000 live births
j. Deaths in first year of life; rate per 1000 live births
k. Excess of live births over total deaths; rate per 1000 population
l. Years to double the population at current rates of increase

TABLE 2: REPORTED VITAL STATISTICS
Northwest Territories 1989
Number/Rates as noted

		DENE		INUIT		OTHER		ALL	
	NOTE	N.	RATE	N.	RATE	N.	RATE	N.	RATE
POPULATION	a	8,052		19,571		25,703		53,326	
BIRTHS									
Total	b	233		675		474		1382	
Live		229	28.4	664	33.9	469	18.2	1362	25.5
~ In Hospital	c	220	94.4	636	94.2	472	99.6	1328	96.1
~ In Health Centre	c	11	4.7	38	5.6	2	0.4	51	3.7
~ Elsewhere	c	2	0.9	1	0.1	0	0.0	3	0.2
~ Low birth weight	d	11	4.8	36	5.4	20	4.3	67	4.9
DEATHS									
Total	e	57	7.1	108	5.5	63	2.5	228	4.3
~ Stillbirths	f	4	17.2	11	16.3	5	10.5	20	14.5
~ Perinatal	g	6	25.8	16	23.7	6	12.7	28	20.3
~ Neonatal	h	3	13.1	7	10.5	1	2.1	11	8.1
~ Postneonatal	i	0	0.0	6	9.0	3	6.4	9	6.6
~ Infant	j	3	13.1	13	19.6	4	8.5	20	14.7
~ Maternal		0	0.0	0	0.0	0	0.0	0	0.0
~ Other		54		95		59		208	
INCREASE	k	172	21.4	556	28.4	406	15.8	1134	21.3
Years to double	l		32.8		24.6		44.3		32.9

LEGEND: *N = Number*

NOTES:

a. Mid-year population
b. Live Births + stillbirths
c. Number, percent of total
d. Birth weight less than 2500 grams
e. Sum of infant + all other deaths;
rate per 1000 population
f. Death at 20 weeks or more gestation, or more than 500 grams;
rate per 1000 total births
g. Stillbirths and deaths under 7 days of age;
rate per 1000 total births
h. Deaths during the first 28 days;
rate per 1000 live births
i. Deaths after 28 days but before 1 year;
rate per 1000 live births
j. Deaths in first year of life;
rate per 1000 live births
k. Excess of live births over total deaths;
rate per 1000 population
l. Years to double the population at current rates of increase

The birth rates of 28.0 and 25.5 per thousand are twice the Canadian rates, rates are high for all ethnic groups, but have been consistently higher among the Inuit. (Comparison of fertility rates at specified ages is a better basis for comparison. Again, NWT rates are relatively high, with the highest rates among the Inuit.) An increasing proportion of births occur in hospitals - over 96% in 1989. The proportion of low birth weight babies overall compares favourably with rates outside, but rates remain higher for Native than for non-Native infants. Perinatal and infant mortality among non-Native infants is below the Canadian rates, but Native infant rates remain considerably higher despite great improvement. No maternal deaths have been reported. The high birth rate more than compensates for the population loss through deaths. This "natural increase" of population is the highest in Canada, at rates which if maintained would double the NWT population by early in the 21st century, with enormous social implications.

Socio-Economic Conditions

Most of the major advances in the health of populations have been achieved through better housing, better nutrition and sanitation, widespread immunization, and improved care for children, infants and pregnant women. For many populations, including the NWT, these improvements have been recent and are not yet fully established.

In the NWT, as elsewhere, employment and income levels as well as educational levels are related to ethnic origin, age and sex. Income is very much influenced by the educational level achieved, and is also a major determinant of health. The potential for a "vicious cycle" is thus created, where the poor get sick and the sick get poorer.

Income

Income data compiled by the Department of Social Services indicate that a majority of Native residents have income levels below or close to the poverty level. Over one-third of the

population of the NWT depends upon social assistance for at least one month a year - in 1983/84 for an average of four months. Rates were higher in the Keewatin region (**Table 3**). The report from which these data were obtained is being updated by the Department of Social Services.

TABLE 3: SOCIAL ASSISTANCE SUPPORT FOR NWT RESIDENTS
Distribution by Health Region 1983/1984
Percent Receiving Assistance, Months of Assistance

		Percent of Population			Months of Assistance		
Region	**Population**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**
Yellowknife	11,211	6	50	7	3.9	6.4	4.1
Fort Smith	13,914	2	94	29	2.3	7.8	4.9
Inuvik	8,614	4	63	26	1.3	6.8	4.3
Baffin	9,425	39	91	58	3.5	5.4	4.5
Keewatin	4,768	46	71	58	4.3	7.3	6.3
Kitikmeot	3,704	4	80	48	1.0	5.8	4.9
NWT	51,636	2	94	34	1.0	7.8	4.0

Source: *Social Assistance Program: April 1980 - March 1985. GNWT Department of Social Services*

Unemployment

The 1989 NWT Labor Force Survey indicates that unemployment rates for Natives are twice the non-Native rate. Unemployment rates for Natives aged 15-24 are twice the overall Native rate, thus four times the non-Native rate. The report does not support the suggestion that Natives choose unemployment in order to pursue traditional activities. In contrast, the report notes that 72% of unemployed Native men and 59% of unemployed Native women wanted a job.

Education

About 20% of the Canadian population 15 years and older is functionally illiterate; the rate in the NWT as a whole, based on having a Grade 9 education or less is 44%, and for the Native population it is 72%. Limited reading and writing

skills, difficulty with simple calculations, and poor language capabilities result in fewer opportunities for employment. Official language policies and health and social services programs to combat illiteracy supplement efforts of the educational system to improve this situation.

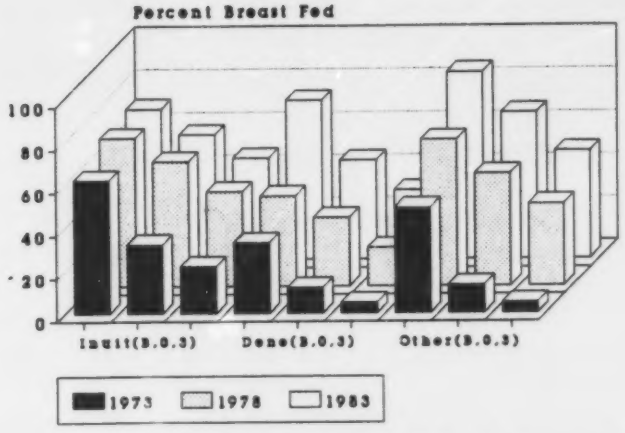
Housing

Existing information on the condition of NWT housing deals primarily with the physical structure rather than with accepted public health criteria, such as adequate space per person and general sanitary conditions. Poor housing conditions in the NWT are considered to be important in determining the health of the population, but the extent to which this is so is not known. Because the population is growing so fast, the lack of sufficient acceptable housing requires urgent attention. An objective assessment of housing in relation to health is required as a major element of re-housing planning efforts.

Nutrition

The nutritional, social and cultural benefits of country foods and traditional lifestyle practices have been well documented. The low incidence of heart disease in the Native population can, in part, be attributed to extensive use of traditional foods and to an active lifestyle. Breast feeding, which is the best nutritional start for infants, is traditional and remains a frequent pattern of feeding during early infancy. Data from 1973, 1978 and 1983 indicate that breast feeding is increasing in extent and duration (**Figure 4**). Continued community and professional efforts to promote and support this practice are necessary to ensure that sufficiently high breast feeding rates are achieved and maintained in the NWT.

FIGURE 4: NWT BREAST FEEDING PRACTICE
Distribution by Age and Ethnicity
Survey Results: 1973, 1978,& 1983
Note: (B,0,3) = Birth, 3Months, 6Months



Source: Stewart, P.J. and Steckle, J. Breastfeeding among Canadian Indians on-reserve and women in the Yukon and NWT. CJPH, 1987;78: 255-261.

Some Native people are currently having difficulty maintaining an acceptable state of nutrition because their generally healthy diet of traditional foods is increasingly being replaced by imported "store-bought" foods. Those who are moving away from traditional foods need support and encouragement to learn how best to select a nutritious diet either from a combination of traditional and store-bought foods or from store-bought foods alone.

Store-bought foods which are available in small northern communities are generally less than fresh and lack variety. They are also too expensive for many residents. While it may be possible to make nutritionally sound store-bought foods more available and less expensive, the larger problem would be to ensure that such foods were used in a nutritionally sound manner.

Nearly all NWT residents watch television which originates in the south, and are influenced by lifestyle images portrayed by commercial media. Behaviour changes advocated by the Department to maintain and promote health in the NWT

must deal with these competing images. It is an uneven match, and may call for the use of direct control measures. One such measure could be through regulatory or other controls which would discourage the use of beverages that have a high sugar content and no nutrient value. Alternatively, or in addition, foods high in nutritional value might be subsidized to bring them within economic reach of all residents.

Family and Community Life

Southern influences continue to have an impact on family life in the north. The major challenge is to maintain and strengthen family life, and retain the sense of community in the face of pressures which promote destructive behaviours. Indicators from the Department of Social Services and the Department of Justice which show evidence of severe strain - family breakdown, spousal and child abuse, and overcrowding of halfway houses and shelters - suggest the magnitude of the task.

To many adult observers the most obvious and troubling effect of change in the NWT has been altered attitudes and behaviour of young people. Many lack the supervision as well as the personal responsibilities which are inherent in the traditional way of life, whether that tradition was European or Native. Many are frustrated by social and economic pressures and limitations. For whatever reason, the energies and rebelliousness of some youth are directed to activities which have a damaging effect upon themselves and upon the community. The lack of adequate employment opportunities aggravates the situation.

Rapid social change produces stress. Some individuals respond to this kind of stress in such a manner that they find it difficult or impossible to function normally. These individuals may be considered mentally ill and in need of treatment or supervision, but many require only the caring support of family and friends. The capacity for families to care for ill members in the home, however, is diminishing as non-traditional living arrangements become the norm, and more people are drawn to work outside the home. As a result,

there appears to be a need for arrangements in the community to care for the casualties of social change.

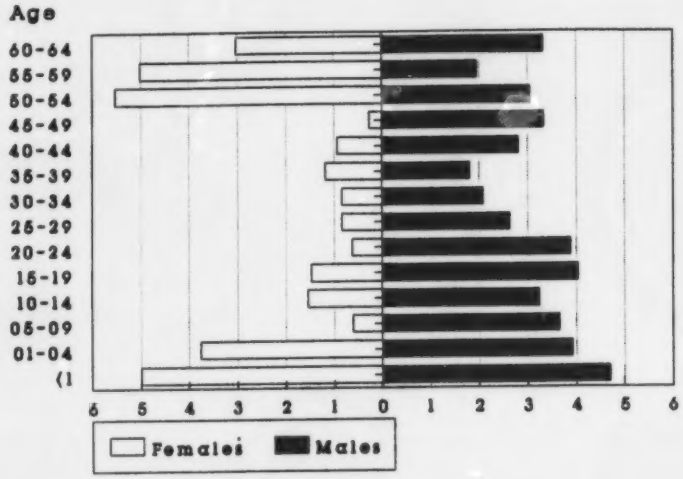
The implications for society and for the health service are three-fold: first, to recognize that social pressures and tensions contribute to both physical and mental illness; second, to accept responsibility for improving the conditions which create the situation; and third, to improve the system so that support is reliably available to those unable to deal positively with the rapid changes brought about by development. Currently, there are only limited treatment services available, and coordination of support available through the Departments of Health, and Social Services, is a challenge.

Alcohol Use and Abuse

Most countries have chosen to accept the consequences of alcohol abuse as the price for its widespread accessibility. These consequences fall upon nearly all sectors of society, and the personal and family tragedies involved can have serious implications for community life, and the general economy. The most destructive implications result from the effects of alcohol on the developing fetus. Use of alcohol in pregnancy is reported to occur in many communities, and there is evidence of delayed growth of infants, and even frank mental deficiency, as a consequence. The full extent of the problem is not known, but it should be viewed as potentially catastrophic in its implications for Native society, and deserves urgent attention.

The health service is involved with the injuries from accidents and violence which so often follow alcohol abuse. Injuries represent a large proportion of outpatient visits, hospital admissions, hospital days in the NWT, and medevacs. Deaths due to injuries involve NWT residents at rates markedly higher than those for Canada as a whole (**Figure 5**). Although all ages are involved a great many of these deaths occur between the ages of 15 and 24 - and those in that age group are the ones who might be expected to make the greatest contribution to the future of the NWT.

FIGURE 5: NWT MORTALITY: INJURY AND VIOLENCE
Age, Sex Specific Rates per 100,000
Comparison with Canada Rates (Canada = 1)
Data: Canada - 1987; NWT - mean 1983 - 1987



Coexisting with alcohol will require renewed efforts to avert as many of its adverse effects as possible, beginning with those that destroy young lives. One contribution, proven effective elsewhere, would be to raise the age at which driving licenses may be obtained or alcohol legally purchased, as well as to enforce more vigorously the laws governing helmet and seat belt use.

Tobacco Use and Abuse

Tobacco use is one of the major preventable causes of disease, disability and death in the NWT. The 1985-86 Health Promotion Survey indicated that 52% of NWT residents smoke. This is substantially higher than the smoking rate for the rest of Canada. NWT rates were highest among Native females: 65% of Dene/Metis women and 77% of Inuit women smoke. Also alarming is the fact that 62% of all students aged 15-19 smoke cigarettes on a regular basis - the highest rate among students in Canada.

The effects of cigarette smoking on health are many. Most lung cancers, which account for over one-quarter of all cancers in the NWT, are caused by smoking. Between 1970 and 1984 (the most recent year for which comparative data are available), the lung cancer rate in NWT men was almost 50% higher than the rest of Canada; in women, the rate was almost **four times higher**. Other cancers, such as those of the esophagus and cervix, occur more frequently in smokers than in non-smokers, and the rates for these cancers are also high compared to the rest of Canada.

Smoking contributes to many other conditions, such as complications of pregnancy, respiratory problems in children, ear infections, chronic lung disease and heart disease. Detailed analysis of these conditions in the NWT is not currently available; a comprehensive review is needed of all death, disease and disability related to tobacco use.

The use of smokeless tobacco (snuff and chewing tobacco) is also a cause for concern. Although the health risks are not as clearly understood as those of smoking, using smokeless tobacco leads to an increased risk of cancer of the mouth. NWT children often begin to use chewing tobacco at age ten or earlier, and about 7% of youths aged 5-19 are regular users.

Environmental Health

Contamination of Traditional Foods

Recent surveys indicate that land and sea mammals, fish, birds, and even vegetation have been contaminated by the long range transmission of industrial pollutants originating from activities around the world. Some residents, particularly Native people, may consume many contaminants because of their food choices and practices. The implications of long-term contaminant intake, even for single contaminants are not known.

It could be dangerous to react to this hazard by limiting the intake of traditional foods or recommending the restriction

of breast feeding. Traditional foods and breast milk contain nutrients which are essential to healthy development; without them individuals would be at risk, especially during the critical periods of pregnancy, nursing and infancy. The use of traditional foods has many social and cultural benefits. A rapid shift to store-bought foods would be socially disruptive and would also produce nutritional deficiencies. The known benefits of traditional foods and breast feeding outweigh any yet unknown consequences of consuming contaminated foods.

Action must be taken at national and international levels to control the entry of pollutants into the environment and into the food chain. Persistent action in these areas will make a greater contribution to the public's health than discouraging the use of or regulating against traditional foods.

Community Sanitation

Since 1960 there has been considerable progress in dealing with "grey water", which is all the waste water from domestic use excluding toilet waste, and sewage. However, general levels of community sanitation in the NWT are still poor, and action is needed to reduce conditions which lead to the direct or indirect spread of intestinal communicable diseases.

Although there are laws which cover basic environmental control activities, past approaches to violations have been through education, and only rarely through the courts. Regulations which govern sewage disposal, public water supply and general sanitation are in a great many cases either obsolete or non-existent. The NWT *Cities, Towns and Villages Act* authorizes municipalities to make by-laws regulating sewage and drainage systems, garbage and waste, water supply and public health generally, yet few by-laws have been proclaimed. If a safe and hygienic environment is to be maintained it seems that broad community and political support are absolutely necessary. This support can be obtained only through improved community understanding and action.

The most recent systematic report on environmental conditions at the community level was produced in 1982 (**Table 4**).

TABLE 4: COMMUNITY WATER AND SANITATION SERVICES By Population Served - 1982

		Water				Sewage		Solid Waste
		Supply & Treatment Criteria			Distribution	Collection	Treatment	
Status	Base	Bacteriologic	Chemical	Esthetic				
Acceptable	Communities	37	59	56	51	14	35	26
	Population (N)	39,191	43,479	42,750	44,114	23,955	35,877	29,345
	Population (%)	86.4	95.9	94.3	97.3	52.8	79.1	64.7
Generally	Communities					32		
Acceptable	Population (N)					19,302		
	Population(%)					42.6		
Unacceptable	Communities	25	3	6	11	16	27	36
	Population (N)	6,145	1,857	2,586	1,222	2,079	9,459	15,991
	Population (%)	13.6	4.1	5.7	2.7	4.6	20.9	35.3

Source: Christensen, V. Status of Water and Sanitation Facilities in the Northwest Territories GN*WT Local Government, 1982.*

Since then, water and sanitation projects have been undertaken in virtually every community by the Department of Municipal and Community Affairs, with substantial improvement in water supplies, and in sewage and solid waste disposal systems. However, a review of environmental health records suggests that deficiencies exist in the operation and maintenance of these systems, and that stronger emphasis must be placed on monitoring and enforcement to ensure compliance with public health requirement and codes of good practice. The Department of Health is collaborating with other GNWT departments and community councils to achieve and maintain acceptable standards. In 1991, a report will be prepared on current community sanitation conditions.

Food Hygiene:

The threat of food poisoning is a continuing concern. The traditional use of uncooked, or fermented foods place individuals at additional risk from: brucellosis, botulism, trichinosis, diphyllobothriasis (fish tapeworm), tularemia,

and giardiasis. The Department's efforts to educate the public regarding the existence of hazards, and how they may be avoided require continuing reinforcement.

Regulations concerning such basic areas as food hygiene and communicable disease control must be amended to reflect current standards.

HEALTH CARE INDICATORS

Health System Organization and Resources

The Organization and Administration of Health Care Delivery

The GNWT administers and operates the Hospital Insurance and Medical Care (Medicare) Plans in accordance with the provisions of the Territorial Hospital Insurance Services (THIS) and Medical Care Acts respectively. The Hospital Insurance Plan is administered by the Department of Health, under the direction of the THIS Board. The Medical Care Plan (Medicare) is administered directly by the Department of Health.

The THIS Board was formed in 1959, pursuant to the provisions of the THIS Act passed in the same year. Each individual holding a seat on the THIS Board is appointed by the Commissioner, upon the recommendation of the Minister of Health. The Board reports to the Legislative Assembly through the Minister of Health.

The primary functions of the THIS Board have changed little since its inception in 1959, although the scope of the Board's responsibility has widened to include the Hospital and Health Boards which were created as part of the major transfer of responsibility for health services from Medical Services Branch (MSB) of Health and Welfare Canada to the GNWT. The THIS Board's responsibilities are broad and essentially involve the development and maintenance of a coordinated system of hospitals and health related facilities throughout the NWT, as well as the administration and coordination of the Hospital Insurance Plan. The THIS Board also determines the amounts that may be paid to hospitals and related health facilities in and outside the Territories with respect to the cost of insured services those facilities have provided to eligible residents of the NWT. The THIS Board is also responsible

for ensuring that adequate standards of patient care are maintained within all hospitals and health facilities.

Medicare was introduced in the NWT in 1971 to complement the coverage of the THIS Plan. The Plan provides insurance coverage for most medically required services rendered by physicians, and for specified dental surgical procedures. The coverage under Medicare satisfies the federal government requirements of universality, accessibility, comprehensiveness, portability and administration on a nonprofit basis by a public authority.

Federal funds are made available to the GNWT for the provision of insured health services under the Federal-Provincial Fiscal Arrangements and Established Programs Financing Act (EPF) of 1977 and through the Governmental Formula Financing Arrangements in place for all GNWT programs. Special cost recovery arrangements are in place for Non-insured Health Benefits (NIHB) provided under the Federal Indian Health Policy, and for insured hospital and medical services provided to status Indians and Inuit. Each fiscal year the Legislative Assembly of the GNWT approves the funding levels for Medicare and the hospital insurance plan.

The Department administers Medicare according to the provisions of the territorial Medical Care Act. Activities which support the plan include registration of eligible persons, determination of insured services, annual negotiation of a fee schedule with the NWT Medical Association and processing and payment of claims.

All persons registered under the NWT Health Care Plan are also eligible for benefits under Medicare. Some of the more significant benefits include specialist visits, some surgical-dental procedures, eye examinations and follow-up treatment, obstetrical care and a range of approved diagnostic and therapeutic services when administered by a qualified medical practitioner.

When MSB established health service arrangements in the NWT during the 1950s, it was with the intention that they

would be transferred to the GNWT. This has been accomplished gradually. The steps taken during the 1980s were transfer of the then Frobisher Bay hospital in 1982, followed by the transfer of all remaining health care programs and services in the Baffin zone in 1986. MSB administered services in the NWT through four zones: Baffin, Keewatin, Inuvik and Mackenzie; the remaining zones were transferred in April 1988. Underlying these transfers was the prevailing philosophy, shared by both the territorial and federal governments, that health care service delivery can best be undertaken, and can be most responsive to the needs of the NWT population, if administered locally, with direct input and involvement of NWT residents through Regional Boards.

The transfer of responsibility for health care service delivery was not restricted to hospitals and community health centres. In addition, programs involving public health, communicable disease control, dental health, nutritional health, environmental health and alcohol and drug abuse were also transferred. Upon completion of the transfer, the GNWT had responsibility for 42 health centres (nursing stations), plus five public health centres, eight satellite centres and six hospitals.

Accompanying the transfer of health facilities and services from Health and Welfare Canada were financial resources believed adequate to administer a geographically diverse, yet integrated health care system. In addition to the transfer of funds for the operation of the program, allowance was made for renovation and replacement of specified health facilities. As well, numerous buildings and moveable assets were also transferred, including vehicles, equipment, medical supplies, staff residences, warehouses and garages. Health and Welfare Canada has retained responsibility for the NIHB (dental care, vision care, drugs, and appliances), but contracts its administration to the GNWT.

Eventually eight health boards will exist in the NWT. Presently there are Regional Health Boards in Inuvik, Baffin, Kitikmeot and Keewatin which are responsible for the regional delivery of all programs offered by the Department of Health. Hospital boards in Hay River, Fort Smith and Yellowknife operate combined acute and extended care

hospitals. The Mackenzie Regional Health Service is still in formation. Health board members are appointed by the Minister of Health, upon the recommendation of the communities or other participant organization which they represent. Each community in the NWT has or will eventually have a person from their community as a voting member of a regional health or hospital board.

Community health committees of the hamlet and town councils, or other representative body at the community level, serve as a conduit for health board members to receive and transmit information and concerns regarding health services.

TABLE 5: THIS AND MEDICARE FINANCIAL INFORMATION
For the Period April 1, 1984 to March 31, 1990

EXPENDITURES

THIS	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Budget Review Hospitals	15,387	17,044	29,784	37,166	71,049	77,366
Semi-Budget Review Hospitals	8,430	9,075	2,200	2,255		
Hospitals Outside the NWT	14,140	16,391	16,914	17,108	19,101	20,571
Extended/Chronic Care	947	1,067	1,055	967	1,151	2,106
Support Services - GNWT						3,201
Subtotal	38,904	43,577	49,953	57,496	91,301	103,244
Change from Preceding Year		12.0%	14.6%	15.1%	58.8%	13.1%
MEDICARE:						
NWT Doctors	6,506	6,533	7,548	7,314	8,223	9,636
Other Doctors	1,972	2,329	2,577	3,091	2,919	3,301
Subtotal	8,478	8,862	10,125	10,405	11,142	12,937
Change from Preceding Year		4.5%	14.3%	2.8%	7.1%	16.1%
Total Expenditures	**47,382**	**52,439**	**60,078**	**67,901**	**102,443**	**116,181**
Change from Preceding Year		**10.7%**	**14.6%**	**13.0%**	**50.9%**	**13.4%**
REVENUE RECOVERIES:						
Established Program Financing						
~ Hospital Insurance	8,074	6,558	7,719	11,526	9,746	8,732
~ Medicare	2,778	2,257	2,656	3,966	3,353	3,004
~ Extended/Chronic Care	1,930	2,157	2,261	2,597	2,534	2,778
DIAND Grant (Hospitals)	11,574	14,305	13,936	15,233	19,488	27,200
DIAND Grant (Medicare)	2,508	2,621	3,206	3,560	3,638	4,313
Reciprocal Billing	629	465	461	507	411	1,074
Other Recoveries	4,199	683				507
Total Revenue	**31,962**	**29,046**	**30,239**	**37,389**	**39,170**	**47,608**
Change from Preceding Year		**-8.3%**	**4.1%**	**23.6%**	**4.8%**	**21.5%**

Notes: *1. All figures except 1989/1990 reflect actual as listed in published Main Estimates*
2. Figures for 1989/1990 are from Public Accounts schedules of the Department of Finance.

Over the six year period 1984/85 to 1989/90, Department expenditures have increased significantly, most notably in transfer payments to the six NWT hospitals (**Table 5**).

Total THIS expenditures in 1989/90 surpassed one hundred million dollars, over three times the expenditure in 1984/85. Much of this increase stems directly from the added fiscal responsibility assumed by the Department of Health during the transfer of all remaining hospitals and health facilities in 1988. Payments to physicians for insured services doubled over this same period.

Prior to the transfer in 1988, the THIS Board was responsible for 217 of the then 410 beds. By April 1990, responsibility had increased to include 462 acute and extended care beds (**Table 6**).

TABLE 6: NWT HEALTH FACILITIES
Distribution by Hospital/Health Board
Rated Bed/Bassinet Capacity 1984/1985, 1988/1989

REGION/BOARD	1984 / 1985		1988 / 1989	
	Beds	Bassinets	Beds	Bassinets
Ft. Smith Health Centre	25	3	25	3
HH Williams Hospital Board	50	8	50	8
Stanton Yellowknife Hospital	72	12	135	18
Baffin Regional Health Board				
~ Baffin Regional Hospital	34	8	34	12
~ Community Health Centres	57	13	56	13
Inuvik Regional Health Board				
~ Inuvik Regional Hospital	55	10	64	10
~ Community Health Centres	31	9	21	10
Keewatin Regional Health Board				
~ Community Health Centres	28	8	24	7
Kitikmeot Health Board				
~ Community Health Centres	32	10	23	6
Mackenzie Regional Health Service				
~ Fort Simpson Hospital	13	3	14	3
~ Community Health Centres	13	5	16	6
TOTALS	**410**	**89**	**462**	**96**

Arrangements for the Provision of Services

A network of facilities now exists through which clinical services can be provided to all residents. Services are provided on an outpatient or inpatient basis, either on-site at a base hospital or health centre in the NWT, or if it is found to be medically necessary, in a facility outside the NWT. The aim is to provide all NWT residents with assured access to this system. The system differs in philosophy and in practice from most other Canadian settings; it was originally developed out of necessity, but has been maintained by choice. It operates on the principle of delegation of responsibility for the management and delivery of services - prevention, treatment, rehabilitation, or care to Regional Boards.

In addition to insured health services and Native benefits described above, additional health benefits are provided to some persons who lack such non-insured benefits through employer plans. Metis and non-Natives who are over 60 years of age or who have a specified disease condition are also eligible for these benefits.

Because the distance may be great between a resident's home community and the nearest destination where insured services are available, the GNWT subsidizes medical travel costs for persons who do not have access to such benefits through employer plans or other coverage.

In most communities in the NWT, primary health care is provided by nurses and a mix of other professionals and paraprofessionals operating out of well-equipped health centres, which have minimal inpatient capabilities. Community Health Nurses (CHNs), working in isolated and remote communities, serve as the entry point to the health care system. They provide health promotion and support services, rehabilitation, as well as emergency and other treatment, and referral services, in a variety of settings - in clinics, schools, homes and community centres. In a growing number of communities, the work of CHNs is facilitated and supported by Community Health Representatives (see below).

Physicians, based in larger centres, act as consultants to the community health nurses, and make regularly scheduled trips with additional trips as necessary. Some support and consultation is also provided by telephone. Acute care inpatient facilities are based in communities which are able to support the critical core of treatment services - anesthesia, internal medicine, obstetrics, pediatrics, and surgery. These centres are responsible for providing consultation, back-up and training for professionals located in the referring communities. In communities with a hospital, public health units are also operated, to provide health education, health promotion and disease prevention services.

Treatment Capabilities, Care Services

The pressure to provide more elaborate treatment capabilities is unending, even though the total population benefits vary little as a result of their introduction. Further, the purchase and use of high-technology drains resources and attention away from activities which are potentially more beneficial to the public as a whole. Care (as opposed to treatment) services, such as home care and supportive living arrangements, and rehabilitation, contribute much to human welfare and wellbeing, yet they receive relatively meager financial support.

Care within a home setting is frequently the most effective and desirable way to meet individual and family health care needs. These needs can be assessed, and provided in a coordinated manner. Home care services include nursing and one or more of the following: homemaker service, meals on wheels, volunteer services, consultant services, equipment loan, handyman and transportation services. Through these services, residents of the NWT who require assistance due either to illness or disability are able to stay at home in their own community. Currently only six communities are served by fully operational home care programs, although many others do benefit from homemaker programs under the auspices of the Department of Social Services. Future expansion of home care will be dependent upon the identification of new, or reallocated, resources.

In addition to care services, the Department is attempting to provide a wide range of rehabilitation services which include occupational therapy, physiotherapy, audiology, and speech therapy. Most problems resulting from pain, congenital anomalies, musculoskeletal, neurological, cardiac and respiratory disease processes, accidents, injuries, enforced inactivity, emotional and developmental disorders can be successfully treated through rehabilitation. These services are still in the early stages of development in the NWT. Further development is required before rehabilitation services will be available in the smaller communities.

Standards, and Acceptable Care

The quality of services is monitored and evaluated in both hospital and community health settings. Canadian accreditation standards exist for hospitals, but not yet for health centres. Such standards, however, do not indicate sufficiently whether acceptable care is being provided. It would be more relevant to determine whether patients benefit as a result of the treatment they receive, or whether they might have been more effectively and less expensively treated elsewhere. An effort to establish standards of this kind is under way.

Treatment in the NWT, or Outside

Over the five-year period, 1984/85 to 1988/89, growth in the number of available beds and bassinets for NWT residents has occurred through the opening of the new Stanton Yellowknife Hospital. During the same period total inpatient days decreased (**Table 7, Figure 6**). The decrease in inpatient days in recent years reflects in part the increasing number of patients who are seeking or being referred for medical treatment in southern hospitals. Territorial facilities continue to provide a large and growing number of outpatient services to NWT residents (**Figure 7**).

TABLE 7: UTILIZATION OF NWT HOSPITALS AND COMMUNITY HEALTH CENTRES 1984 - 1989

	1984/1985			1985/1986			1986/1987			1987/1988			1988/1989		
HOSPITAL	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**
Fort Smith Health Centre	247	5,329	7,731	263	5,454	6,680	227	4,784	6,926	216	4,449	7,099	224	4,026	7,757
HH Williams Memorial	1,097	11,795	14,754	1,076	12,160	10,725	999	12,279	10,730	890	12,523	9,914	946	10,520	10,746
Stanton Yellowknife	3,100	19,787	24,636	3,538	17,877	30,343	3,966	19,668	33,818	3,757	17,654	35,629	3,832	16,781	37,881
Baffin Regional	1,631	8,815	13,773	1,727	8,823	16,037	1,584	8,448	21,293	1,414	9,264	15,127	2,439	8,616	15,765
Inuvik Regional	1,393	10,896	11,212	1,358	6,635	11,288	2,966	6,739	10,274	1,383	10,703	9,543	1,375	9,176	13,930
Fort Simpson	277	2,234	6,139	248	2,284	6,525	194	2,276	7,627	174	2,893	7,383	140	1,542	8,187
All Hospitals	7,745	58,856	78,245	8,210	53,233	81,598	9,936	54,194	90,668	7,834	57,486	84,695	8,956	50,661	94,266
Community Health Centres	1,105	1,105	220,029	1,035	1,035	233,704	1,548	1,548	256,388	1,866	1,953	259,317	954	1,310	258,817
ALL FACILITIES	8,850	59,961	298,274	9,245	54,268	315,302	11,484	55,742	347,056	9,700	59,439	344,012	9,910	51,971	353,083

PERCENT CHANGE IN UTILIZATION FROM PRECEDING YEAR, OVER PERIOD 1984 - 1989

	1985/1986			1986/1987			1987/1988			1988/1989			Change over Period 84-89		
HOSPITAL	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**	**Seps**	**PDys**	**OPVs**
Fort Smith Health Centre	6.5	2.3	-13.6	-13.7	-12.3	3.7	-4.8	-7.0	2.5	3.7	-9.5	9.3	-9.3	-24.5	0.3
HH Williams Memorial	-1.9	3.1	-27.3	-7.2	1.0	0.0	-10.9	2.0	-7.6	6.3	-16.0	8.4	-13.8	-10.8	-27.2
Stanton Yellowknife	14.1	-9.7	23.2	12.1	10.0	11.5	-5.3	-10.2	5.4	2.0	-4.9	6.3	23.6	-15.2	53.8
Baffin Regional	5.9	0.1	16.4	-8.3	-4.3	32.8	-10.7	9.7	-29.0	72.5	-7.0	4.2	49.5	-2.3	14.5
Inuvik Regional	-2.5	-39.1	0.7	118.4	1.6	-9.0	-53.4	58.8	-7.1	-0.6	-14.3	46.0	-1.3	-15.8	24.2
Fort Simpson	-10.5	2.2	6.3	-21.8	-0.4	16.9	-10.3	27.1	-3.2	-19.5	-46.7	10.9	-49.5	-31.0	33.4
All Hospitals	6.0	-9.6	4.3	21.0	1.8	11.1	-21.2	6.1	-6.6	14.3	-11.9	11.3	15.6	-13.9	20.5
Community Health Centres	-6.3	-6.3	6.2	49.6	49.6	9.7	20.5	26.2	1.1	-48.9	-32.9	-0.2	-13.7	18.6	17.6
ALL FACILITIES	4.5	-9.5	5.7	24.2	2.7	10.1	-15.5	6.6	-0.9	2.2	-12.6	2.6	12.0	-13.3	18.4

LEGEND:

Seps = *Separations*
PDys = *Patient Days*
OPVs = *Outpatient Visits*

FIGURE 6: **PATIENT DAYS, NWT HOSPITALS 1984 - 1989**
Percent Change from Preceding Year;
Change over Period
Source: THIS, 1990

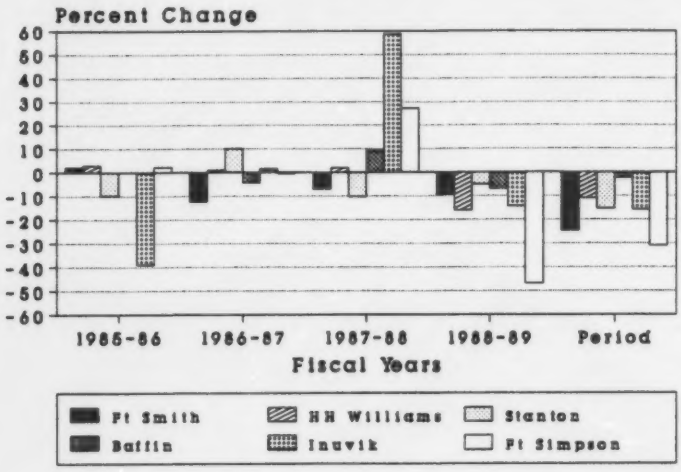
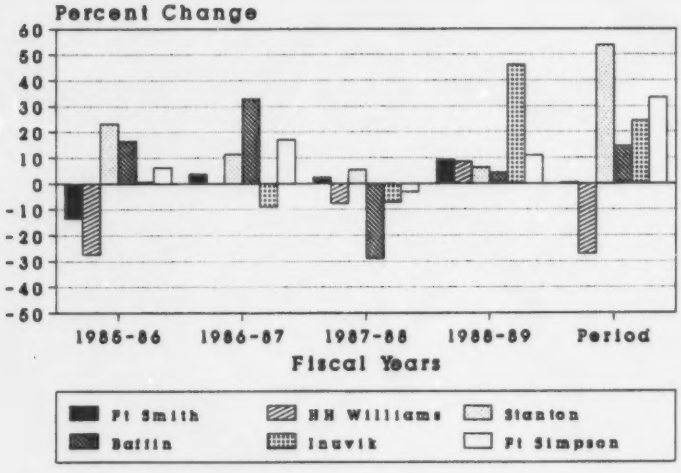


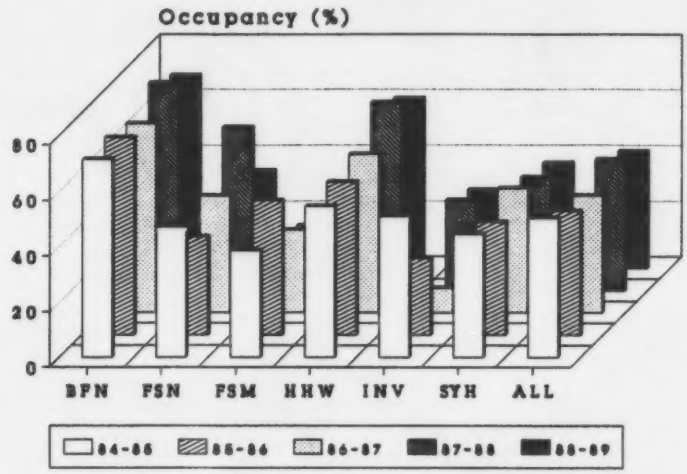
FIGURE 7: **OUTPATIENT VISITS, NWT HOSPITALS 1984 - 1989**
Percent Change: Year to Year; Period
Change over Period
Source: THIS, 1990



While most NWT hospitals have stable or declining occupancy rates (**Figure 8**), over 30% of inpatient days (excluding

those for newborn), and about 20% of outpatient visits occur outside the NWT (**Table 8**).

FIGURE 8: UTILIZATION OF ACUTE CARE BEDS
NWT Hospitals 1984 - 1985 to 1988 - 1989
Source: THIS, 1990



LEGEND:

BFN = Baffin
FSN = Ft Simpson
FSM = Ft Smith
HHW = HH Williams
INV = Inuvik
SYH = Stanton

TABLE 8: HOSPITAL SERVICES
Inside and Outside the NWT
Inpatient Days & Outpatient Visits

INPATIENT DAYS

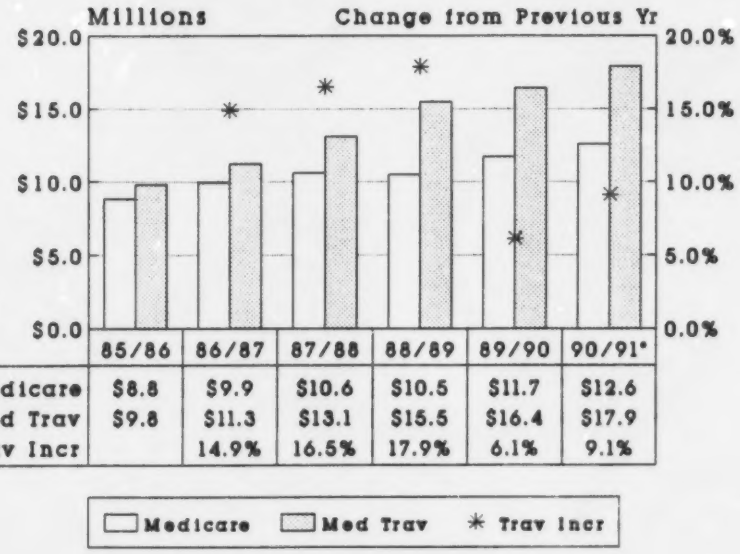
Fiscal Year	Total	NWT	Outside	Percent Outside
1984/1985	85,378	58,856	26,522	31.1
1985/1986	88,280	53,233	35,047	39.7
1986/1987	89,584	54,194	35,390	39.5
1987/1988	89,648	57,486	32,162	35.9
1988/1989	81,450	50,661	30,789	37.8

OUTPATIENT VISITS

Fiscal Year	Total	NWT	Outside	Percent Outside
1984/1985	85,146	78,245	6,901	8.1
1985/1986	89,460	81,598	7,862	8.8
1986/1987	102,138	90,668	11,470	11.2
1987/1988	105,117	84,695	20,422	19.4
1988/1989	114,205	94,266	19,939	17.5

Large numbers of residents are referred elsewhere for treatment and are required to travel from their home community, either to a regional centre or outside the NWT, at an annual expense which exceeds the total medicare payments (**Figure 9**). When this treatment could have been provided in the resident's home, or at least closer to home, the usefulness of the health care system is compromised and unnecessary costs are incurred.

FIGURE 9: MEDICARE, MEDICAL TRAVEL COSTS
Northwest Territories, 1985 - 1990
Annual Expenditures, Rate of Increase
Source: GNWT Health 1990
Note: Costs Based on Service Date *90/91 Projected



	85/86	86/87	87/88	88/89	89/90	90/91*
Medicare	$8.8	$9.9	$10.6	$10.5	$11.7	$12.6
Med Trav	$9.8	$11.3	$13.1	$15.5	$16.4	$17.9
Trav Incr		14.9%	16.5%	17.9%	6.1%	9.1%

Ineffective Use of Treatment Services

If treatment resources are to be used appropriately, residents must know more about them than just the fact that they are available. Individuals must know the capabilities of each service, and *how* and *when* it can benefit them. A particular problem arises in relation to unhealthy conditions which may be accepted as normal. High blood pressure, obesity, arthritis and a wide variety of treatable conditions ascribed to "old

age" are examples of conditions which often go untreated because the individual does not recognize them as a problem.

For serious diseases such as cancer of the breast or of the cervix in women, or cancer of the prostate in men, there may be no symptoms during the early course of the disease when treatment is most effective. It is not enough that the health service is available. The people of the NWT must know enough about themselves and about their health service to obtain its full benefits.

Human Resources

Staffing of the Health Service

The major issue facing the Department of Health over the next several decades will be staffing of the health service. Since its inception in the 1950s under the Department of National Health and Welfare, the system has been dependent upon recruitment of professional staff from outside the NWT. The circumstances which fostered such recruitment no longer prevail, and maintenance of an adequate number of suitably prepared staff is becoming increasingly difficult, and is expected to get worse. It has become apparent that the Department must examine the issue of what specific providers of care are needed to deliver primary care services and what education or training they require, and then to ensure that the educational and training opportunities are accessible.

Initially, a detailed review is needed to identify options for the staffing of community health services, preferably by health care workers trained within the NWT. The number of Native staff should be in keeping with their proportion in the population. Such staffing must be related to the needs for care as identified by health professionals, and the demand for service as expressed by the community. It is no longer reasonable to tie community services to the presumed skills of individual health disciplines; instead it must be based on demonstrated performance for specific services.

Various solutions to community health services staffing problems have been proposed and promoted over the years. Most of these proposals have been based upon assumptions that have not been fully tested, and pursued through plans that have been neither fully implemented nor critically evaluated.

There is need to examine who should provide the basic level of primary care in small communities. One assumption appears to be that community services can be based upon nurses recruited from outside the NWT. The declining availability of nurses worldwide, however, has made recruitment of nurses suitably qualified for work in isolated communities very difficult.

To function effectively the health system must include sufficient numbers of suitably qualified persons. At present, the *number* of professionals superficially appears acceptable for primary care physicians and dentists, marginal for hospital nurses and dental therapists; precarious for specialist physicians, community health nurses and environmental health officers. The *distribution*, however alters these assessments for each region. Every effort has been made to deploy existing resources equitably, but when the desirable staffing level is one, or less than one person, continuing problems should be expected.

The addition of a lone physician to a community served by a health centre is not necessarily beneficial. The physician, lacking immediate access to specialized assistance, whether it be manpower or equipment, is unable to provide substantially more or better services than are already available from the health centre, but may be tempted to do more than is prudent. Further, the presence of a physician may undermine the relationships between the usual providers of care and the public, and community professionals. When, not if, the physician leaves, the whole structure of service must be reassembled. Thus, the continued development and maintenance of health services in small communities, will proceed more quickly and effectively under conditions not dependent upon the presence of a physician.

Staffing Support for Facilities

Health system facilities appear excessive for inpatient beds, but for obstetrics, the number is barely adequate. The appropriate number of total beds, however, is unlikely to be determined until housing needs are addressed, and the potential for community care have been saturated - because health facility beds are often the inappropriate and expensive alternative to home or community care.

Within the hospital sector, it is important to consider the range and extent of services and care which can be safely supported. Although some specialist care is provided in all hospitals, by resident or visiting consultants, the principal use is for investigation and general hospital care. Most seriously ill persons should be and are referred to Montreal, Winnipeg or Edmonton, and increasingly, to Yellowknife for treatment. With current resources, it would be unwise to attempt more. However, with prudent extensions of specialist and support service, and policies which promote their use, many more patients could be treated in Inuvik, Iqaluit or Yellowknife. The ability to attract additional NWT-based specialists is not the only limitation to expansion of services. There must be sufficient opportunity for specialists to exercise their skills in order to maintain them, and a sufficient number of persons requiring the service of a specialist to justify the direct and indirect costs of supporting a specialist.

Educating Health Professionals

Nurses who accept the responsibility for delivering health care in isolated communities are now able to receive additional preparation through the Advanced Nursing Skills in-Service Program (ANSIP). The first class of seven completed the program in February 1990.

The NWT has also begun the difficult process of attracting, training and retaining NWT residents for careers in the health care system. Only a very small proportion of NWT post-secondary students are actively seeking training in

health-related fields. Of the 779 GNWT financially supported students enrolled in courses during 1990, inside and outside the NWT, only 60 are receiving training that might enable them to work in health-related fields, 24 of these are studying psychology. Less than one in twenty (4.6%) of NWT post-secondary students are candidates for employment in the fields of nursing, pharmacy, rehabilitation, physiotherapy, or medicine. In addition, very few native children achieve full matriculation (**Table 9**). Therefore it appears certain that for many years the health system will continue to be dependent upon professionals recruited from the south if the current approach to service delivery is maintained.

TABLE 9: NWT HIGH SCHOOL GRADUATES
1988/1989 Academic Year
Category of Diploma by Ethnicity
Source: GNWT Education 1989

ETHNICITY	GENERAL	ADVANCED	TOTAL
Dene	14	3	17
Inuit	30	4	34
Metis	9	6	15
Other	50	79	129
Total	103	92	195

NOTES:
~ *A general diploma is preparation for college or apprenticeship enrollment*
~ *An advanced diploma is required for university entry*

Initiatives undertaken by the Department in conjunction with other GNWT departments show some promise of improving the situation for support level staff. CHR programs conducted since 1989 will have produced 27 graduates by November 1990, with a further 12 graduates anticipated in June 1991. The eventual goal is to have a CHR connected to every community health centre within the territories. Continuing education efforts are under way for Clerk/Interpreters, and, on a pilot basis, Community Health Aides (an Alaska program). The success of these programs will depend upon a clear understanding of functions and relationships; these subjects are still being debated.

HEALTH STATUS INDICATORS

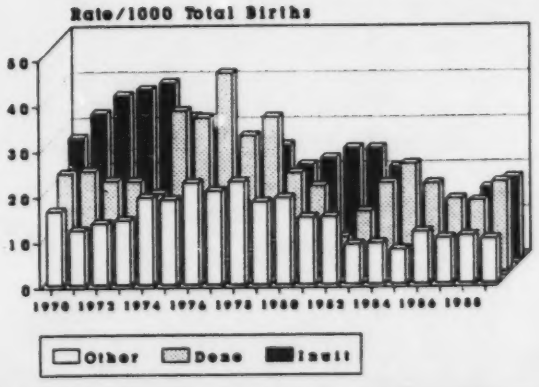
The concepts of "unnecessary or untimely death" and "unnecessary disease" have been chosen as the basis for comparing the NWT experience with that of Canada, as a means of identifying those areas requiring special attention.

Death

Relatively complete records of deaths in the NWT date only from the 1960s. Since then, some progress in reducing unnecessary or premature mortality has occurred, chiefly for infants. This is probably the result of general improvements in living conditions, especially in the areas of housing, nutrition and sanitation.

Perinatal and infant death rates are sensitive indicators for health conditions in a community. By this measurement, Health Department statistics for the period 1970-1989 demonstrate a dramatic improvement, but with a distressingly stable gap between NWT and overall Canadian experience; proportionally, infant mortality and perinatal mortality rates for NWT Native babies have changed little over this period (**Figures 1 and 10**).

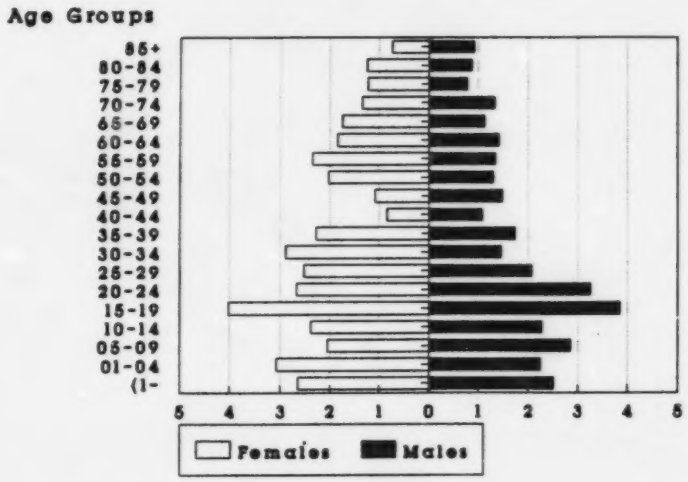
FIGURE 10: NWT PERINATAL MORTALITY BY ETHNICITY
Experience by Ethnicity 1970 - 1989
Three Year Rolling Averages
Source: MSB, GNWT Health



Mortality among Dene and Inuit infants is still more than twice the non-Native Canadian rate.

The low crude death rate in the NWT obscures the fact that for nearly every age and sex group, the total death rates are considerably higher than for the corresponding group in the general Canadian population. For the age group 15-19, the rates for both females and males are four times the Canadian rate (**Figure 11**).

FIGURE 11: MORTALITY, ALL CAUSES: CANADA; NWT
Age, Sex Specific Rates Per 100,000
Comparison with Canada Rates (Canada = 1)
Source: Statistics Canada 1989
Data: Canada - 1987; NWT - mean 1983 - 1987



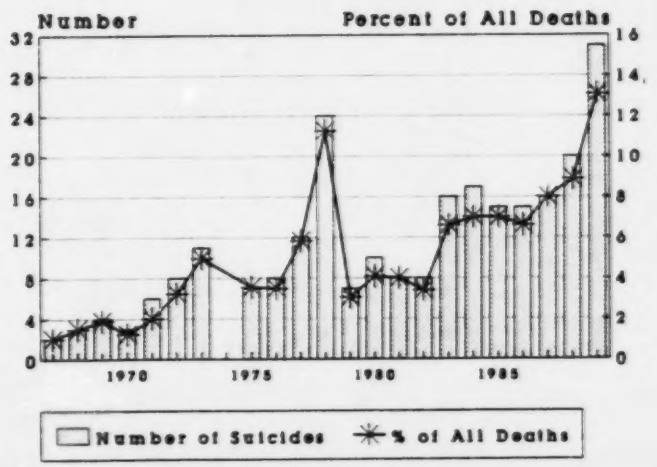
Examination of specific causes of death provides additional insight into health problems of the people of the NWT (**Table 10**). Violence (accidents, suicide and homicide) is the leading cause of death. Violent deaths occur at much higher rates than in the general Canadian population.

TABLE 10: LEADING CAUSES OF DEATH IN THE NWT
All Deaths During 1988 and 1989

	FEMALES		MALES	
CONDITION	**Number**	**Percent**	**Number**	**Percent**
Chronic Obstructive Lung Disease	0	0.0	17	5.8
Motor Vehicle Accidents	3	1.9	16	5.4
Coronary Heart Disease	3	1.9	21	7.1
Homicide	4	2.5	10	3.4
Suicide	11	6.9	40	13.6
Lung Cancer	12	7.5	22	7.5
Other Accidents/Injuries	15	9.4	36	12.2
Other Cancers	30	18.8	41	13.9
All Other Causes	82	51.3	91	31.0
Total	**160**	**100.0**	**294**	**100.0**

A particular concern is suicide, among the young Native population. During the 1980s, the NWT suicide rate was more than twice the Canadian rate; in the age group 15-24 the NWT rates were more than 5 times the Canadian rate (**Figures 5 and 12**). Yet death from heart disease, the most common cause of death in Canada, is still unusual among the Native population.

FIGURE 12: REPORTED SUICIDES
Northwest Territories 1967 - 1989
Number; Percent of all Deaths
Source: GNWT Health 1990
Note: Data for 1974 not Available



In the NWT, cancer is the second most common cause of death, with a high rate for both males and females (especially from lung cancer).

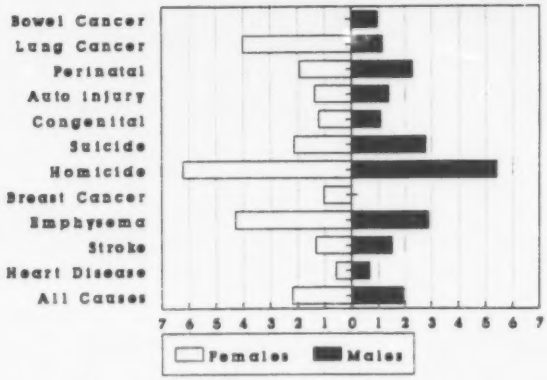
Another way of comparing deaths is by calculating the "potential years of life lost" (PYLL). A standard age of death is established, which in the NWT is 70. The age then at which a person dies is subtracted from 70 to give the PYLL, or years of life lost. For example the PYLL for a man who dies at 65 would be 5; for a child who dies at 10 years old the PYLL would 60. This approach attaches more weight to those conditions which result in death at an early age. During the period 1984-1989 violence accounted for over 30% of all deaths and, in 1986, accounted for almost half of the "potential years of life lost"; alcohol is believed to have been a precipitating or contributing factor in many of these deaths **(Table 11, Figure 13)**.

TABLE 11: PERSON YEARS OF LIFE LOST
Canada, NWT 1982 - 1986
Rate per 100,000; Ratio NWT Rate/Canada Rate

	FEMALES UNDER 75				MALES UNDER 75			
	NWT		CANADA		NWT		CANADA	
CAUSE	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
Lung Cancer	939	1	235	6	690	5	603	4
Perinatal mortality	678	2	357	5	1,057	3	465	5
Car accidents	495	3	364	3	1,388	2	1,011	2
Congenital anomalies	442	4	363	4	437	7	402	6
Suicide	420	5	199	8	2,176	1	784	3
Homicide	404	6	65	15	649	6	120	13
Breast cancer	375	7	370	2		NA		
Emphysema	326	8	76	12	435	8	151	10
Stroke	252	9	191	7	356	9	238	7
Coronary heart disease	250	10	431	1	1,072	4	1,618	1
Large bowel cancer		NA			183	10	197	8
ALL CAUSES	10,840		4,972		17,894		9,405	

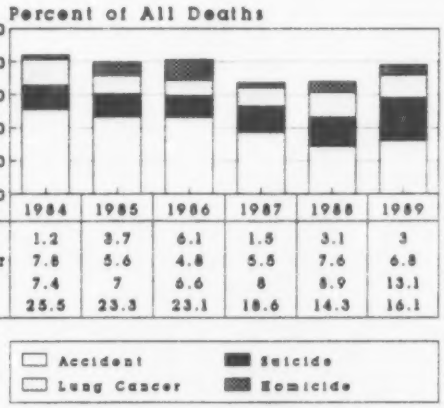
NOTE:
NA = not among 10 major causes in NWT

FIGURE 13: POTENTIAL YEARS OF LIFE LOST (PYLL)
Ratio of NWT Rates (Canada Rate = 1)
Ten Major Causes 1982 - 1986, by Sex
Source: Statistics Canada 1989



Identification of "unacceptable causes of death or disease" - unacceptable because of the existence of reliable and available means of prevention or effective treatment - is an even more specific basis for developing intervention responses. From this perspective it is easier to look for possible preventive measures for "unnecessary or premature" causes of death (**Figure 14**), and for other conditions such as prematurity, cancers of the cervix, and cirrhosis of the liver .

FIGURE 14: UNNECESSARY OR PREMATURE DEATH
Selected Causes, NWT 1984 - 1989
Source: GNWT Health 1990



	1984	1985	1986	1987	1988	1989
Homicide	1.2	3.7	6.1	1.5	3.1	3
Lung Cancer	7.8	5.6	4.8	5.5	7.6	6.8
Suicide	7.4	7	6.6	8	8.9	13.1
Accident	25.5	23.3	23.1	18.6	14.3	16.1

Disease

In general, information on disease comes from three main sources: statistics kept on those conditions reportable by law, health care utilization information (physician visits, health centre visits, or hospitalizations) and data from special surveys.

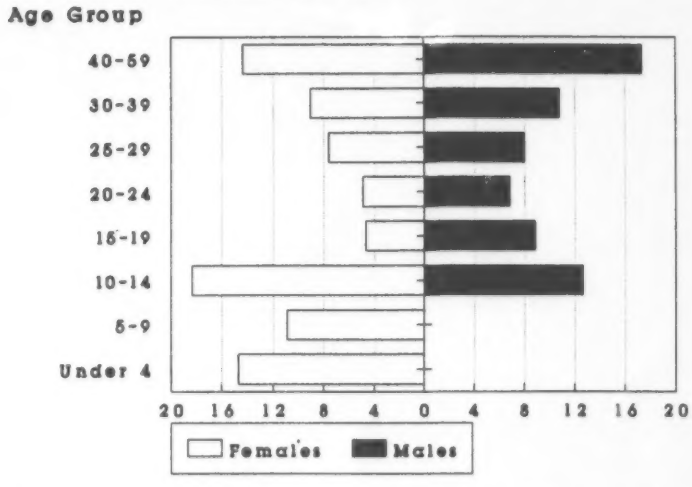
In the NWT, conditions reportable by law include communicable diseases and cancer. These conditions are the ones about which the most information is available.

On average, 50 to 60 new cases of cancer occur each year in the NWT. The overall cancer rates are comparable to the rest of Canada. However, the types of cancer differ from the general Canadian pattern. Lung cancer, the most common type, has shown an alarming increase over the past decade; rates in men during 1970-1984 were 50% greater and in women almost four times greater than the Canadian average. Smoking plays a large role in the development of lung cancer (over 80% of lung cancers are believed to result from smoking), and smoking rates in the NWT are much higher than elsewhere in Canada (see "Tobacco use and abuse" above).

Cervical cancer in women is also a concern, with NWT rates being 60% higher than the rest of Canada. This disease is generally considered to be sexually transmitted, and is more common in smokers. It is largely preventable through Pap smear screening.

Sexually transmitted diseases remain the most common of the reportable communicable diseases. Depending on age, NWT rates of gonorrhea in 1989 were six to eighteen times the corresponding Canadian rates (**Figure 15**). Although the higher NWT rates may be partly explained by more complete reporting of these diseases by health professionals in the NWT, the rates are still unacceptably high.

FIGURE 15: REPORTED GONORRHOEA BY AGE AND SEX
NWT Rates as Multiple of Canada Rates
(Canada Rate = 1)



The frequency of gonorrhea, raises concern about human immunodeficiency virus (HIV) infection and AIDS. To July 31, 1990, ten NWT residents have been reported to be HIV infected. The actual number is likely to be higher, as many of those infected will not feel ill or seek testing. Also, because AIDS is a relatively "new" disease, and can take up to 10 years after infection to develop, it is very likely that we will see the incidence of this disease increase in the NWT over the next ten years.

Tuberculosis remains a problem in the NWT. Current rates are much lower than those of the past, but outbreaks continue to occur (**Figure 2**). The disease is largely of concern in the Native population, where rates are similar to those in developing nations. Tuberculosis will continue to be a problem as long as inadequate housing and overcrowding are common.

Some communicable diseases are preventable to varying degrees by immunization. Although the occurrence of most of these, (e.g. diphtheria, tetanus, polio, measles), is now uncommon in the NWT, it is essential that all children continue to be immunized, or these diseases will no doubt

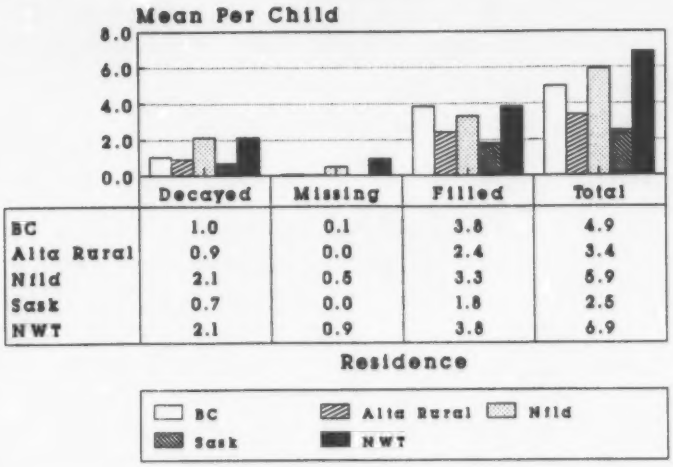
become common again. Other diseases, such as pertussis (whooping cough) and influenza, continue to occur with regularity, but immunization can lessen the severity of illness for those at highest risk.

Disease caused by Haemophilus influenzae type B (Hib) occurs at higher rates in the NWT than in any other part of Canada. This disease primarily affects children under two years of age. Rates in the Inuit and Dene are twenty and eight times, respectively, the Canadian rates. Meningitis comprises over three-quarters of all Hib disease, and this condition often results in death or disability in up to one third of cases. Although a vaccine is available, it is not very effective in children under 18 months of age. Efforts are under way to develop a vaccine which is effective for young infants.

Information on chronic diseases in the NWT, other than cancer, is not readily available. Although some surveys have been done, little is known about important conditions such as otitis media, diabetes, and heart disease. As the Native population moves toward a less traditional diet one can expect that these diseases will increase, especially if current tobacco use patterns continue.

Dental disease in NWT children, particularly among young children, is a major health concern. It is also considered an "unnecessary" health problem. The poor condition of the teeth of children, especially Native children, is shown by the number of diseased, missing or filled teeth for each age group. Recent surveys of 13 year old children indicate that dental caries and missing teeth rates are the highest in Canada (**Figure 16**). These statistics are unfavourable and worsening and will be reversed only through a major increase in the preventive dental program which would rely heavily upon increased awareness of the reasons for dental disease, followed by action by the people themselves to interrupt the course of disease.

FIGURE 16: DENTAL HEALTH OF 13 YEAR OLDS
Mean Decayed, Missing, Filled Teeth
Distribution by Residence



	Decayed	Missing	Filled	Total
BC	1.0	0.1	3.8	4.9
Alta Rural	0.9	0.0	2.4	3.4
Nfld	2.1	0.5	3.3	5.9
Sask	0.7	0.0	1.8	2.5
NWT	2.1	0.9	3.8	6.9

Inadequate sanitation remains as a cause of infectious disease. Poor nutrition and improper infant feeding practices are becoming new threats to health, and there is renewed concern about inadequate immunization. Many of these threats can be dealt with through the collaborative efforts of the involved population, with the assistance of health and other agencies.

Examination of data on service activities serve to measure the extent to which disease prevention and control programs are meeting identified needs. It is more important and useful to know, for example, what proportion of children are fully or partially immunized, rather than simply the number of immunizations provided. Similar reporting practices for prenatal attendances, complications of pregnancy, and dental caries provide insights both for program staff and for management by focusing attention upon some of the effects of interventions. When only the number of interventions are reported the information is not nearly so instructive, and may be quite misleading.

Disabilities

Disabilities arising from preventable occupational and other injuries exact a costly, but not yet fully documented, toll from NWT residents and society.

Dissatisfaction

There are constant rumbles of dissatisfaction within the health care system, which is not unusual, and may be healthy. The performance of the system as it carries out its agreed-upon services, is sometimes viewed as inadequate, and disapproval is quickly voiced if any personal, clinical or administrative function is perceived to have been neglected or inappropriately delivered. Pressure to conform to or meet the "norms" of southern treatment capabilities and programs is evident, but it is not clear whether this pressure originates from the public or from within the system itself. How much of the southern pattern of health service delivery is suitable for the NWT is an issue which will be debated repeatedly over the years to come.

CONCLUSION

The controllable health problems of the NWT may be broadly characterized as those associated with *poverty*, and those related to *affluence*. The former will require economic and social responses, toward better housing and sanitation, and improved nutrition; both will require behavioural change - to reduce high risk personal behaviour. Collectively they require a considerable reorientation of public and individual attitudes, and a careful allocation of public and personal resources in support of health.

Future Directions

If health is to be improved in the NWT, we must know what our problems are, and which of them we can deal with, and in what manner. This will require coordinated planning and organization centrally, regionally, and in each community. While several government departments must play major roles - notably Health, Education, Social Services, as well as Municipal and Community Affairs, and the Housing Corporation - nearly every department must engage in the effort to develop healthy public policy.

Function of the Department of Health

A unique function of the Health Department, even more basic than the direct provision of health care services, will be to monitor the health status of the population. The aim is to trace the origin of adverse health effects, in order to find a basis for possible intervention. The scope of responsibilities of the Department and its organization should be based upon the understanding of current or anticipated problems which threaten to interrupt the continued improvement of health. The Department must develop the ways and means to effectively assess health status, and to determine what actions are required to promote health, prevent disease, treat illness, restore function or provide care.

Public Participation

The participation of the public in the planning process will be fostered through Health Boards at the territorial and regional levels, and through Health Committees in each community. The Department of Health, in conjunction with the THIS Board, will play a major role in developing and reviewing the policies under which health services will be developed and operated. The primary responsibility for service delivery will rest with Regional Health Boards. Communities can contribute now under their own authority through the adoption of by-laws in support of healthy public policy measures, and by advising on appropriate local service delivery.

Public Responsiveness

It is important to assess community knowledge and attitudes toward current health problems and related behaviour as a guide to developing and evaluating health promotion programs, such as those directed to the use of cigarettes, alcohol, and drugs. Information on these subjects can be gathered by making use of opportunities such as the census, or other community survey activities.

Proposed Strategy

This report suggests that current expenditures and efforts of the Department of Health, and the general activities of government need to be more effectively directed to the identification, monitoring or control of major health problems.

The Department must continually reassess its own goals while advocating the involvement of the government and the people in problem areas which are correctable through long term *societal* intervention in political/economic and educational/behavioural issues.

Political/economic issues include income, employment, housing, nutrition, sanitation, and contaminants in the traditional food chain; *educational/behavioural* issues include alcohol use

and abuse, tobacco use, immunization, and appropriate use of treatment services.

The Department must develop better ways to assess health status and find more effective methods to promote health, prevent disease, treat illness, and restore function or provide care. The Department will not carry out this role in isolation but will seek to obtain the fullest possible involvement through collaboration with Regional Health Boards, the public and other agencies. The scope of the Department's programs, and its structure, should be based on an understanding of existing or anticipated threats to health, and on an ability to intervene in a timely and effective manner.

GLOSSARY

Accreditation standards:
~ desirable staffing, equipment, services for quality care in hospitals developed and monitored by the Canadian Council on Hospital Accreditation.

AIDS:
~ a disease transmitted by sexual intercourse, transfusion of blood, or the sharing of contaminated needles; it breaks down the body's ability to fight infections, and is usually fatal.

Cervical:
~ referring to the cervix, the entrance to the womb.

Clinical:
~ relating to diagnosis or treatment.

Communicable:
~ capable of being passed from person to person.

Contamination:
~ the presence of an infectious agent on the surface of the body, in clothing or in the environment.

Diptheria:
~ a serious infectious disease of the throat.

Genetic:
~ relating to the passing on of possible health problems from parents to their children at conception.

Haemophilus influenzae type B (Hib):
~ a dangerous disease which attacks the brain and nervous system, especially in infants.

Human immunodeficiency virus (Hiv):
~ the organism that causes AIDS.

Infection:
~ the entry and growth of a living organism in another living organism.

Infectious:
~ the ability of a living organism to enter and grow in another living organism.

Mortality:
~ the number of people dying at a given time or place.

Occupancy Rates:
~ the percentage of beds used in a hospital.

Pollutants:
~ unwanted and potentially dangerous chemicals or wastes in the environment.

Primary care:
~ first treatment given for illness or injury.

Rehabilitation:
~ treatment to assist recovery from an illness or injury.

Sanitation:
~ the establishment of conditions favourable to heatlh in relation to water quality, sewage and solid waste collection and disposal.

Tetanus:
~ a serious disease causing muscle spasm and convulsions.

Tuberculosis:
~ an infectious disease that may attack any part of the body, especially the lungs.

Vaccine:
~ a suspension of live, modified or killed infectious organisms, or their by-products, given to prevent the disease produced by that organism.